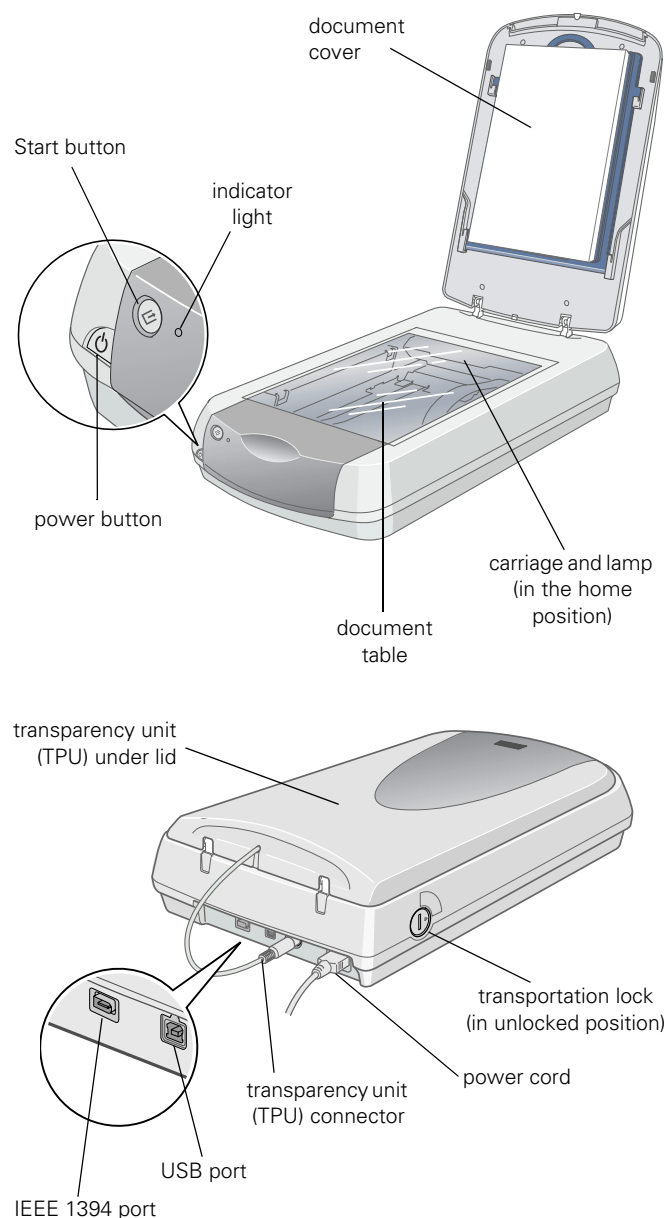


## Scanner Parts



## Scanner Specifications

### Basic Specifications

Scanner type	Flatbed, color
Photoelectric device	Color CCD line sensor
Effective pixels	20,400 × 28,080 pixels at 2400 dpi, 100% scaling

Maximum document size	US letter or A4 size (8.5 × 11.7 inches [216 × 297 mm])
Optical resolution	2400 dpi
Maximum (sub scan) resolution*	2400 dpi (main scan) × 4800 dpi hardware
* The maximum hardware resolution of 2400 × 4800 dpi is achieved using EPSON's Micro Step Drive™ technology.	
Maximum interpolated resolution	12,800 dpi
Output resolution	50 to 12,800 dpi (50 to 6400 dpi in 1 dpi increments, 12,800 dpi performed with zoom function)
Speed (2400 dpi, draft mode)	Color: 11.0 msec/line Grayscale: 3.8 msec/line
Command level	ESC/I (B8), FS
Zoom	50 to 200% in 1% increments
Pixel depth	16 bits per pixel
Brightness	7 levels
Line art settings	Fixed threshold TET (Text Enhancement Technology), enable/disable selectable
Digital halftoning	AAS (Auto Area Segmentation), enable/disable selectable 3 error diffusion modes (A, B, and C) and 4 dither patterns (A, B, C, and D) for bi-level and quad-level data (2 downloadable dither patterns)
Gamma correction	2 types for CRT display 3 types for printer output 1 type for user-defined
Color correction	1 type for CRT display 3 types for printer output 1 type for user-defined (only user-defined color correction is available in EPSON TWAIN)
Interface	USB (Type B receptacle connector) IEEE 1394 (FireWire™)
Light source	White cold cathode fluorescent lamp
Reliability (MCBF)	30,000 cycles of carriage movements
Dimensions	Width: 12.0 inches (30.4 cm) Depth: 18.7 inches (47.6 cm) Height: 4.8 inches (12.2 cm)
Weight	Approx. 12.8 lb (5.8 kg)

## Electrical

Input voltage range 100-120 VAC

Rated input current 0.45 A

Power consumption Approx. 23 W operating  
approx. 7 W in power saving mode

Note: Scanners sold outside the US market may operate at a different voltage. Check the label on the back of the scanner for voltage information.

## Environmental

Temperature Operation: 41 to 95 °F (5 to 35 °C)  
Storage: -13 to 140 °F (-25 to 60 °C)

Humidity (without condensation) Operation: 10% to 80%  
Storage: 10% to 85%

Operating conditions Ordinary office or home conditions; avoid extreme dust, direct sunlight, and strong light sources.

## Safety Approvals

Safety UL 1950  
CSA C22.2 No. 950

EMC FCC part 15 subpart B class B  
CSA C108.8 class B

## USB Interface

Interface type Universal Serial Bus Specification  
Revision 2.0

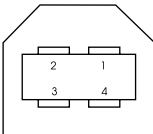
Connector type One receptacle (Type B)

Configuration

Element	Description
Characteristics	Self-powered Remote wake up feature: Not supported Maximum power consumption from VBUS: 2mA (5V)
Interface	No alternate setting Class: Vendor specific
Endpoint 1	Bulk IN transfer Maximum data transfer size: 64 bytes (Full Speed) 512 bytes (High Speed)
Endpoint 2	Bulk OUT transfer Maximum data transfer size: 64 bytes (Full Speed) 512 bytes (High Speed)
String Descriptor	Language ID: US English 1: Manufacturer: "EPSON" 2: Product: "EPSON Scanner"

Electrical standard Full Speed mode (12 Mbit/s) and High Speed mode (480 Mbit/s), Universal Serial Bus Specification Revision 2.0

Connector pin arrangement

Pin number	Signal	Connector
1	VCC	
2	-DATA	
3	+DATA	
4	GND	

## FireWire Interface

Interface type IEEE 1394a-2000 compatible

Data transfer Half-duplex data / strobe differential serial


Synchronization Clock synchronization with DS-Link

Encoding/Decoding DS-Link

Logic level: 3.3. V

Power class Power class code 100  
No power supply from external sources  
Fitted with a repeat function with bus power

Connector pin arrangement

Pin number	Signal	Connector
1	VCC	
2	GND	
3	TPB-	
4	TPB+	
5	TPA-	
6	TPA+	

## Transparency Unit

The transparency unit is built into the scanner lid.

Electrical Supply voltage: DC 24 V  $\pm$ 10% V  
Rated current: 0.5 A

Document specifications Positive or negative film in the following sizes:  
35 mm strips  
35 mm slides  
120/220 (6 × 9-cm) film  
4 × 5-inch film

Readable area 4 × 9 inches (102 × 230 mm)

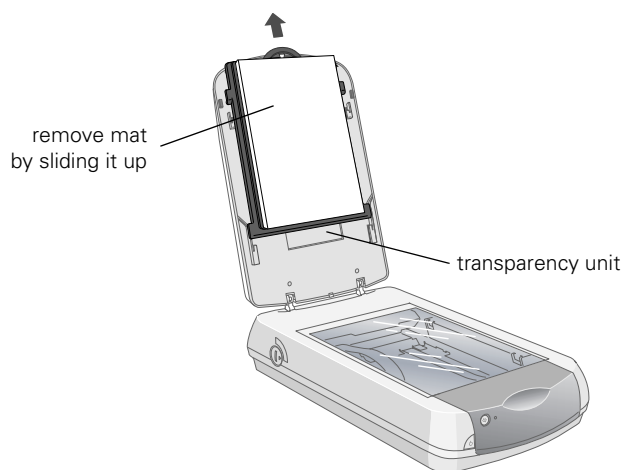
## Scanning Transparencies and Film

Before scanning transparent documents, you need to remove the scanner's reflective document mat; this exposes the scanner's transparency unit (light source), which is built into the lid.

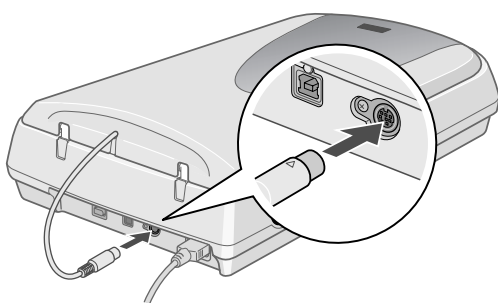
If you're scanning slides or film strips, you'll also need to use one of the film holders.

### Using the Transparency Unit

To use the transparency unit, remove the reflective document mat by grasping the top of the mat and sliding it up gently, as shown.



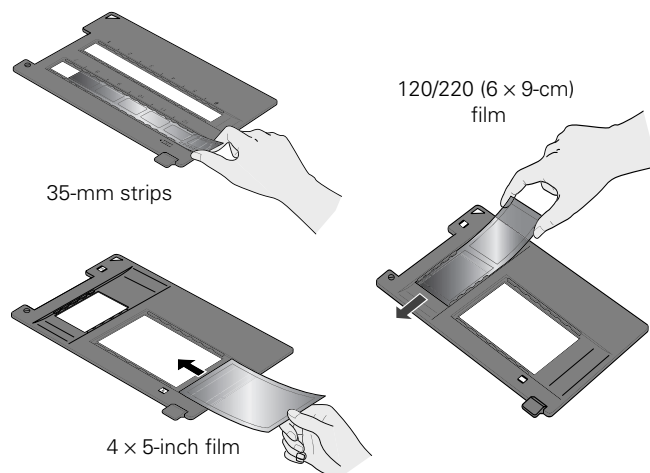
Make sure the cable for the transparency unit is plugged into the round connector. If not, turn off the scanner, then connect the cable as shown.



### Using Film Holders

Film has two sides, a shiny base side and a dull emulsion side. The base side of the film has the film maker's name and film ID numbers printed on it. Always place the shiny base side down.

To scan 35-mm film strips, 4 × 5-inch film, or 120/220 (6 × 9-cm) film, place the film in the correct holder, as shown:



Place the holder with the film onto the scanner. Make sure the white triangle on the holder points to the upper-right corner of the scanner.





If you're scanning 35-mm slides, set the holder on the scanner first, then place the slides in the holder.





Keep the following in mind when using Smart Panel:

- ❑ If you select Copy or Photo Print, make sure your printer is turned on and the correct paper type and size is loaded in your printer.
- ❑ Scan to E-mail requires a MAPI-compliant e-mail program. (AOL is not MAPI compliant; however, you can select **Scan to File**, then use your email software to attach the file to your message.)



For instructions on using each of the Smart Panel applications, see the online help for EPSON Smart Panel.

## Using EPSON Smart Panel

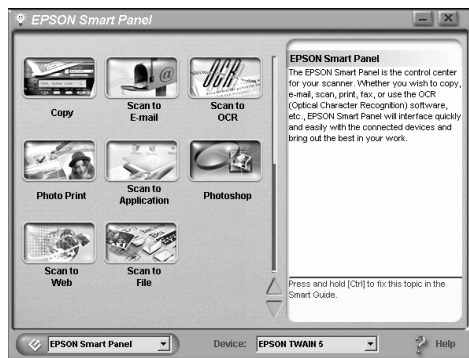
Follow these steps to use EPSON Smart Panel to scan documents or photos:

1. Place the original document(s) face down on the document table.
2. Do one of the following to open the Smart Panel:
  - ❑ Press the  Start button on your scanner.
  - ❑ Click the  Smart Panel icon on the desktop.
  - ❑ On a Macintosh®, you can also open the Apple® menu and select **EPSON SMART PANEL**.



The  Start button is set to open EPSON Smart Panel by default. However, you can assign the  Start button to automatically open any of the Smart Panel applications.

3. Click the icon for your desired scanning application. The window for that option appears and lets you adjust settings for your scan. Follow the on-screen steps for each option.

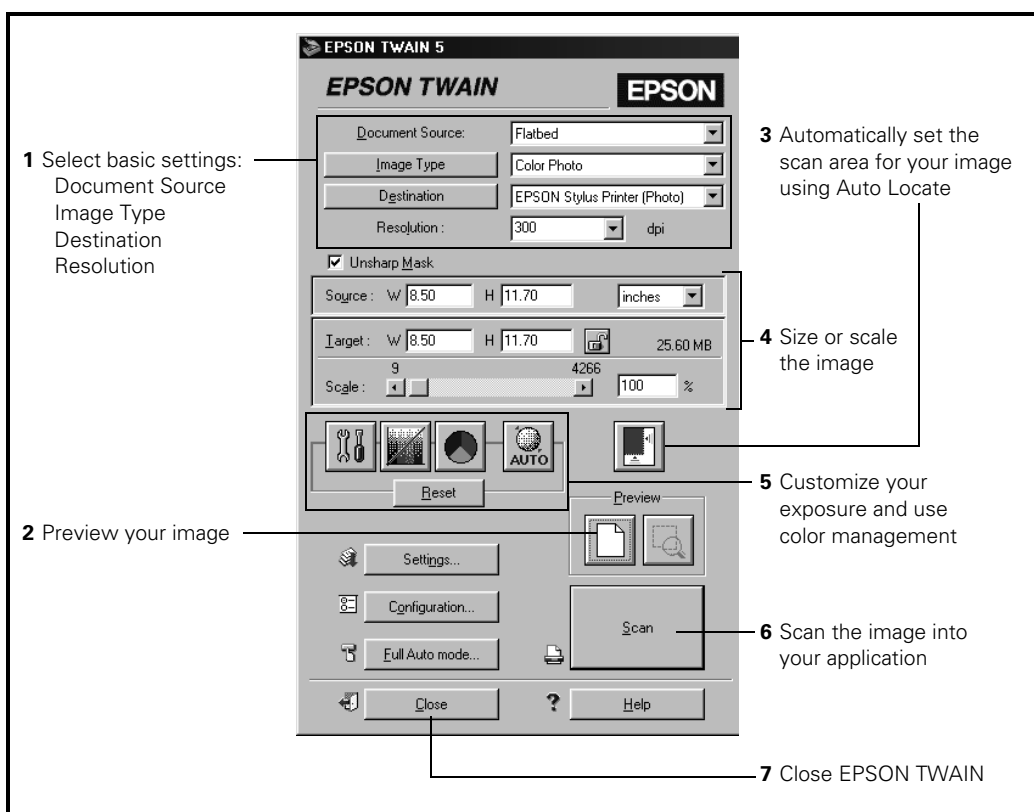


## Selecting TWAIN Settings


If you need to manually adjust the settings in EPSON TWAIN, follow the guidelines shown at right. The illustration shows the preferred order in which settings should be adjusted. Detailed descriptions are given in the electronic *Reference Guide*.



The most important thing to remember when scanning is to select the correct image type and resolution for your scan.



## Indicator Light

The indicator light (next to the  Start button) indicates the status of the scanner, as described below.

Light	Color	Status
On	Green	The scanner is ready to scan images.
Flashing	Green	The scanner is initializing (warming up) or is busy scanning.
Flashing	Red	<p>Check the following, then turn your scanner off and back on to reset it:</p> <ul style="list-style-type: none"> <li>❑ Make sure the transportation lock is turned to the unlocked position. See the <i>Start Here</i> sheet for details.</li> <li>❑ Make sure the scanner is properly connected to your computer.</li> <li>❑ If you are scanning transparencies, make sure you've removed the reflective document mat.</li> </ul> <p>If this does not eliminate the error, the fluorescent lamp may need to be replaced or the scanner may have another problem. Consult your dealer or EPSON.</p>
Off	—	The scanner is unplugged or turned off.

## Related Documentation

CPD-12888	EPSON Perfection 2450 PHOTO <i>Start Here</i> poster
CPD-12887	EPSON Perfection 2450 PHOTO <i>Scanner Basics</i>
CPD-12889	EPSON Perfection 2450 PHOTO scanner software CD-ROM
—	<i>Reference Guide</i> (HTML)
—	EPSON Smart Panel <i>User's Manual</i> (HTML)
TM-PERF2450	EPSON Perfection 2450 PHOTO Service Manual
PL-PERF2450	EPSON Perfection 2450 PHOTO Parts List